

27. A method for making a plurality of different reagent mixtures comprising blood and analyzing particle distributions of the reagent mixtures, wherein each reagent mixture corresponds to a respective operator input indicative of a respective species of blood, and the method is performed with an apparatus having at least one pump, at least one reagent chamber containing at least one lysing agent, a sensing unit defining a counting orifice for receiving a reagent mixture and analyzing a particle distribution of the reagent mixture, and a control unit responsive to each operator input to control the at least one pump to make a respective reagent mixture having a volumetric ratio of the at least one lysing agent to blood corresponding to the respective operator input and species of blood, and to further control the sensing unit to analyze a particle distribution of the reagent mixture, the method comprising the following steps:

adjusting the volumetric ratio of the at least one lysing agent to blood, in response to an operator input indicative of a respective species of blood, to correspond to the respective operator input, and thereby form a predetermined reagent mixture corresponding to the respective operator input and species of blood, said adjusting including:

selecting at least one lysing agent corresponding to the respective operator input;

pumping with the at least one pump a predetermined volume of the at least one lysing agent corresponding to the respective operator input;

pumping with the at least one pump a predetermined volume of blood corresponding to the respective operator input;

intermixing the predetermined volumes of the at least one lysing agent and blood, and in turn creating the predetermined reagent mixture corresponding to the respective operator input; and

71 introducing the predetermined reagent mixture through the counting orifice of the sensing unit and sensing a particle distribution of said reagent mixture.

72 28. A method as defined in claim 27, further comprising the steps of:
in response to each of a plurality of different operator inputs, selecting the ratio of blood to the at least one lysing agent in the corresponding reagent mixture;
pumping with the at least one pump a predetermined volume of the at least one selected lysing agent corresponding to the respective blood/lysing agent ratio;
pumping with the at least one pump a predetermined volume of blood corresponding to the respective blood/lysing agent ratio; and
intermixing the predetermined volumes of blood and the least one lysing agent, and in turn creating a reagent mixture corresponding to the respective operator input.

29. A method as defined in claim 28, further comprising the steps of:
in response to each of a plurality of operator inputs, selecting the ratio of blood to at least one first lysing agent and at least one second lysing agent in the respective reagent mixture;
pumping with the at least one pump a predetermined volume of the at least one first lysing agent corresponding to the respective blood/lysing agent ratio;

72 pumping with the at least one pump a predetermined volume of the at least one second lysing agent corresponding to the respective blood/lysing agent ratio;

pumping with the at least one pump a predetermined volume of blood corresponding to the respective blood/lysing agent ratio; and

intermixing the predetermined volumes of blood and the first and second lysing agents, and in turn creating a reagent mixture corresponding to the respective operator input.

73 32. A method as defined in claim 30, wherein the reagent-mixture components include (i) a predetermined volume of blood, and (ii) a predetermined volume of diluent.

74 35. An apparatus for making a plurality of reagent mixtures comprising blood and analyzing particle distributions of the reagent mixtures, comprising:

at least one pump;

at least one reagent chamber coupled in fluid communication with the at least one pump and containing at least one lysing agent;

a sensing unit defining a counting orifice for receiving a reagent mixture and analyzing a particle distribution of the reagent mixture; and

means for adjusting the volumetric ratio of blood to the at least one lysing agent for creating a plurality of different reagent mixtures, each corresponding to a respective operator input indicative of at least one respective species of blood, and for controlling the at least one pump in response to each operator input to pump predetermined volumes of blood and the at least one lysing agent in accordance with the blood/lysing agent ratio corresponding to the

respective operator input and species of blood, said means further controlling the at least one pump to

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- (i) intermix the predetermined volumes of blood and the at least one lysing agent and thereby create the reagent mixture corresponding to the respective operator input, and
 - (ii) introduce the reagent mixture through the counting orifice of the sensing unit for sensing a particle distribution of the reagent mixture.
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38. An apparatus for making a plurality of reagent mixtures for multi-species hematology testing, and for sensing particle distributions of the mixtures for multi-species hematology analysis, comprising:

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- at least one reagent chamber for containing at least one lysing agent;
 - at least one pump coupled in fluid communication with the at least one reagent chamber;
 - a mixing chamber coupled in fluid communication with the at least one pump for receiving the at least one lysing agent and a predetermined volume of a blood specimen corresponding to any one of a plurality of different species;
 - a control unit electrically coupled to the at least one pump for adjusting the volumetric ratio of the blood specimen to the at least one lysing agent in correspondence with an operator input corresponding to a respective one of the plurality of species and, in turn, creating a reagent mixture therefrom having a blood to lysing agent volumetric ratio corresponding to the operator input and respective species; and

25 a sensing unit coupled in fluid communication with the at least one pump and defining at least one counting orifice for receiving a reagent mixture and analyzing a particle distribution of the reagent mixture.

Please add the following new claims:

R1.126 ⁴⁰/₃₉. An apparatus as defined in claim 35, wherein the means for adjusting the volumetric ratio is defined by a control unit.

R1.126 ⁴¹/₄₀. An apparatus for making a plurality of reagent mixtures for multi-species hematology testing, and for sensing particle distributions of the mixtures for multi-species hematology analysis, comprising:

first means for containing at least one lysing agent;

26 second means coupled in fluid communication with the first means for pumping the at least one lysing agent;

third means coupled in fluid communication with the second means for receiving the at least one lysing agent and a predetermined volume of a blood specimen corresponding to any one of a plurality of different species;

fourth means electrically coupled to the second means for adjusting the volumetric ratio of the blood specimen to the at least one lysing agent in correspondence with an operator input corresponding to a respective one of the plurality of species and, in turn, creating a reagent mixture therefrom having a blood to lysing agent volumetric ratio corresponding to the operator input and respective species; and

fifth means coupled in fluid communication with the second means for receiving a reagent mixture and analyzing a particle distribution of the reagent mixture.

R1,126 ⁴²
~~41~~. An apparatus as defined in claim ⁴¹~~40~~, wherein the first means is defined by at least one reagent chamber for containing the at least one lysing agent.

R1,126 ⁴³
~~42~~. An apparatus as defined in claim ⁴¹~~40~~, wherein the second means is defined by at least one pump coupled in fluid communication with the first means for pumping the at least one lysing agent.

R1,126 ⁴⁴
~~43~~. An apparatus as defined in claim ⁴¹~~40~~, wherein the third means is defined by a mixing chamber coupled in fluid communication with the second means.

76 R1,126 ⁴⁵
~~44~~. An apparatus as defined in claim ⁴¹~~40~~, wherein the fourth means is defined by a control unit.

R1,126 ⁴⁶
~~45~~. An apparatus as defined in claim ⁴¹~~40~~, wherein the fifth means is defined by a sensing unit defining a counting orifice for receiving a reagent mixture and analyzing a particle distribution of the reagent mixture.